

VIDENSKIY, V.S.

Remarks on V.A.Markov's theorem on two polynomials the zeros  
of which alternate. Izv.AN Arm.SSR.Ser.fiz.-mat.nauk 15 no.2:  
15-24 '62. (MIRA 15:4)

1. Matematicheskiy institut imeni V.A.Steklova AN SSSR.  
(Polynomials)

VIDENSKIY, V.S.

Some evaluations for derivatives of rational fractions. Izv.  
AN SSSR. Ser. mat. 26 no.3:415-426 My-Je '62. (MIRA 15:6)

1. Matematicheskiy institut imeni V.A.Steklova AN SSSR.  
(Polynomials)

MANDELBROJT, S.; VIDENSKIY, V.S., [translator] GONCHAROV, V.L., redaktor;  
SHABAT, B.V., redaktor; IL'IN, B.M., tekhnicheskii redaktor.

[Adherent series. Regulatization of sequences. Applications.  
Translated from the French] Priykladnyye riady. Regulir-  
zatsiya posledovatel'nostei. Primeneniya. Perevod s frantsuz-  
skogo V.S. Videnskogo. Pod red. V.L. Goncharova. Moskva, Izd-vo  
inostrannoi lit-ry, 1955. 267 p. (MLRA 8:11)  
(Series) (Functions)

MARKUSHEVICH, A.I.; VIDENSKIY, V.S., red.; KHAVINSON, S.Ya., red.;  
MURASHOVA, N.Ya., tekhn. red.

[Studies on present-day problems in the theory of functions of complex variables (collected articles)] Issledovaniia po sovremennym problemam teorii funktsii kompleksnogo peremennogo (sbornik statei); doklady. Pod red. A.I. Markushevicha. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1960. 544 p. (MIRA 15:1)

1. Vsesoyuznaya konferentsiya po teorii funktsii kompleksnogo peremennogo, 4th, Moscow, 1958.  
(Functions of complex variables)

VIDENSKIY, V.S.

Sergei Natanovich Bernshtein—author of the constructive theory  
of functions. Usp. mat. nauk 16 no.2:21-24 Mr-Apr '61.  
(MIRA 14:5)

(Functional analysis)

VIDENSKIY, V. S., DOG PHYS-MATH SCI, "WEIGHTED APPROXI-  
MATIONS AND POLYNOMIALS WITH MINIMUM DEVIATIONS FROM ZERO."  
LENINGRAD, 1961. (LENINGRAD ORDER OF LENIN STATE UNIV IM  
A. A. ZHDANOV). (KL, 3-61, 201).

S/022/61/014/001/001/010  
B112/B202

16.3000

AUTHOR: Videnskiy, V. S.

TITLE: Second remark on polynomials deviating minimally from zero whose coefficients satisfy a given linear function

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, v. 14, no. 1, 1961, 3-7

TEXT: The author studies a class of polynomials  $P_n(z) = \sum_{k=0}^n a_k z^k$  (1) with complex coefficients  $a_k$  satisfying the condition:

$$L[P_n] = \sum_{k=0}^n m_k a_k = 1$$

with given complex numbers  $m_k$ . If, in class (1) a polynomial  $M_n$  minimally deviates from zero on a compact domain  $K$  of the  $z$ -plane, it deviates, according to a theorem by L. G. Shnirel'man, already on a subset of  $K$  consisting of  $2n+1$  points  $z_s$  at the maximum. In the first paper, the

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Second remark on polynomials ...

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author called such a system  $\{z_s\}$  characteristic if a polynomial of class (1) exists for each subsystem of  $\{z_s\}$  whose deviation from zero on this subsystem is smaller than on the entire system  $\{z_s\}$ . In that paper the author derived a criterion for the case that in class (1) a polynomial  $M_n$  on a characteristic system  $\{z_s\}$  minimally deviates from zero. The result obtained was the extension of theorems which had been established by V. A. Markov and Ye. V. Voronovskaya for the real domain, to the complex domain. In the present paper the former criterion is given a new form by means of the result obtained by A. N. Kolmogorov which is extended to the complex domain. To obtain a minimum deviation from zero of the polynomial  $M_n$  of class (1) on the characteristic set of points  $\{z_s\}$  the following relation is necessary and sufficient:  $M_n(z_s) = re^{-it_s}$ ,  $r > 0$  as well as the existence of a sequence of positive, real numbers  $d_s$ , which satisfy the orthogonality relations  $\sum_s d_s e^{it_s} G_n(z_s) = 0$  for

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Second remark on polynomials...

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B112/B202

a polynomial  $G_n$  with  $L[G_n] = 0$ . There are 5 Soviet-bloc references.

ASSOCIATION: Matematicheskii institut im. V. A. Steklova Akademii nauk  
SSSR  
(Mathematics Institute imeni V. A. Steklov Academy of Sciences USSR)

SUBMITTED: October 31, 1960

Card 3/3

[illegible]

TIMAN, Aleksandr Filippovich; VIDENSKIY, V.S., red.; KRYUCHKOVA, V.N.,  
tekhn.red.

[Approximation theory of functions of real variables] Teoriia  
priblizheniia funktsii deistvitel'nogo peremennogo. Moskva, Gos.  
izd-vo fiziko-matem. lit-ry, 1960. 624 p. (MIRA 13:7)  
(Functions of real variables)

16(1) 11.4200

AUTHOR: Videnskiy, V.S.

61918  
SOV/20-130-1-2/69

TITLE: Extremum Evaluations of the Derivative of a Trigonometric Polynomial on an Interval Smaller Than the Period

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 13-16 (USSR)

ABSTRACT: Let

$$t_n(\theta) = \cos 2n \arccos \frac{\sin \theta/2}{\sin \omega/2}, \quad u_n(\theta) = \sin 2n \arccos \frac{\sin \theta/2}{\sin \omega/2}.$$

The author proves the following theorem:

Theorem: If the trigonometric polynomial of n-th order  $s_n(\theta)$  satisfies the inequation

$$(1) \quad |s_n(\theta)| \leq 1, \quad -\omega \leq \theta \leq \omega, \quad 0 < \omega < \pi,$$

then

$$(2) \quad |s'_n(\theta)| \leq |t'_n(\theta) + i u'_n(\theta)| = n \cos \frac{\theta}{2} \left[ \sin^2 \frac{\omega}{2} - \sin^2 \frac{\theta}{2} \right]^{-1/2}$$

$$-\omega < \theta < \omega$$

and for  $n > \frac{1}{2} \left[ 3 \operatorname{tg}^2 \frac{\omega}{2} + 1 \right]^{1/2}$  it holds

$$(3) \quad |s'_n(\theta)| \leq t'_n(\omega) = 2n^2 \operatorname{ctg} \frac{\omega}{2}, \quad -\omega \leq \theta \leq \omega.$$

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Extremum Evaluations of the Derivative of a  
Trigonometric Polynomial on an Interval Smaller  
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In (2) the sign of equality is reached only for polynomials  $s_n(\theta) = \gamma t_n(\theta)$ ,  $|\gamma| = 1$ , in the  $2n$  points  $\theta_\gamma$  which are zeros of  $t_n(\theta)$  on  $[-\omega, \omega]$ ; in (3) the sign of equality is reached for the same polynomials, but only in the points  $\theta = \pm \omega$ . The author mentions S.N.Bernshteyn, A.A.Markov, I.I.Privalov, N.I.Akhiyezer, and B.Ya.Levin. There are 7 references, 5 of which are Soviet, 1 American, and 1 French.

ASSOCIATION: Matematicheskii institut imeni V.A.Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A.Steklov AS USSR)

PRESENTED: August 29, 1959, by S.N.Bernshteyn, Academician

SUBMITTED: August 28, 1959

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Card 2/2

16(1) 11.4200

AUTHOR: Videnskiy, V.S.

67929  
SOV/20-130-1-2/69

TITLE: Extremum Evaluations of the Derivative of a Trigonometric Polynomial on an Interval Smaller Than the Period

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 13-16 (USSR)

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then

$$(2) \quad |s'_n(\theta)| \leq |t'_n(\theta) + i u'_n(\theta)| = n \cos \frac{\theta}{2} \left[ \sin^2 \frac{\omega}{2} - \sin^2 \frac{\theta}{2} \right]^{-1/2}$$

$$-\omega < \theta < \omega$$

and for  $n > \frac{1}{2} \left[ 3 \tan^2 \frac{\omega}{2} + 1 \right]^{1/2}$  it holds

Card 1/2

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Extremum Evaluations of the Derivative of a  
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SOV/20-130-1-2/69

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ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A.Steklov AS USSR)

PRESENTED: August 29, 1959, by S.N.Bernshteyn, Academician

SUBMITTED: August 28, 1959

X

Card 2/2

MARKUSHEVICH, A.I., red.; VIDENSKIY, V.S., red.; KHAVINSON, S.Ya.;  
MURASHOVA, N.Ya., tekhn.red.

[Investigation in contemporary problems in the theory of  
functions of complex variables; collection of articles] Issle-  
dovaniia po sovremennym problemam teorii funktsii kompleksnogo  
peremennogo; sbornik statei. Moskva, Gos.izd-vo fiziko-matem.  
lit-ry, 1960. 544 p. (MIRA 13:3)  
(Functions of complex variables)



16(1) 11.4200

AUTHOR: Videnskiy, V.S.

57339  
SOV/20-130-1-2/69

TITLE: Extremum Evaluations of the Derivative of a Trigonometric Polynomial on an Interval Smaller Than the Period

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 13-16 (USSR)

ABSTRACT: Let

$$t_n(\theta) = \cos 2n \arccos \frac{\sin \theta/2}{\sin \omega/2}, \quad u_n(\theta) = \sin 2n \arccos \frac{\sin \theta/2}{\sin \omega/2}.$$

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Theorem: If the trigonometric polynomial of  $n$ -th order  $s_n(\theta)$  satisfies the inequation

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then

$$(2) \quad |s'_n(\theta)| \leq |t'_n(\theta) + i u'_n(\theta)| = n \cos \frac{\theta}{2} \left[ \sin^2 \frac{\omega}{2} - \sin^2 \frac{\theta}{2} \right]^{-1/2}$$

$$-\omega < \theta < \omega$$

and for  $n > \frac{1}{2} \left[ 3 \operatorname{tg}^2 \frac{\omega}{2} + 1 \right]^{1/2}$  it holds

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$$(3) \quad |s'_n(\theta)| \leq t'_n(\omega) = 2n^2 \operatorname{ctg} \frac{\omega}{2}, \quad -\omega \leq \theta \leq \omega.$$

Extremum Evaluations of the Derivative of a  
Trigonometric Polynomial on an Interval Smaller  
Than the Period

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In (2) the sign of equality is reached only for polynomials  $s_n(\theta) = \gamma t_n(\theta)$ ,  $|\gamma| = 1$ , in the  $2n$  points  $\theta_\gamma$  which are zeros of  $t_n(\theta)$  on  $[-\omega, \omega]$ ; in (3) the sign of equality is reached for the same polynomials, but only in the points  $\theta' = \pm \omega$ . The author mentions S.N.Bernshteyn, A.A.Markov, I.I.Privalov, N.I.Akhiyezer, and B.Ya.Levin. There are 7 references, 5 of which are Soviet, 1 American, and 1 French.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A.Steklov AS USSR)

PRESENTED: August 29, 1959, by S.N.Bernshteyn, Academician

SUBMITTED: August 28, 1959

X

Card 2/2

16(1)

AUTHOR:

Videnskiy, V.S.

SOV/20-125-1-2/67

TITLE:

Generalizations of the Theorem of A.A. Markov on the Estimation of the Derivative of a Polynomial (Obobshcheniya teoremy A.A. Markova ob otsenke priczvodnocy mnogochnlena)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 1, pp 15-18 (USSR)

ABSTRACT: Theorem: If a polynomial  $P_n(x)$  of degree  $n \geq m$  satisfies the inequation

$$|P_n(x)| \leq \left\{ \prod_{k=1}^m (1 + a_k^2 x^2) \right\}^{1/2} = \prod_{k=1}^m |\alpha_k x + \sqrt{1-x^2}| \quad -1 \leq x \leq 1,$$

then

$$|P_n'(x)| \leq M_n'(1) = n\alpha_1\alpha_2\cdots\alpha_n + 2\sum \alpha_1\alpha_2\cdots\alpha_{n-2}, \quad -1 \leq x \leq 1,$$

where  $\sum \alpha_1\alpha_2\cdots\alpha_{n-2}$  is a symmetric function of  $\alpha_1, \alpha_2, \dots, \alpha_n$ .

The equality is reached only by  $P_n(x) = \gamma M_n(x)$ ,  $|\gamma| = 1$ , in the

points  $x = \pm \frac{1}{\alpha_k}$ .

Here  $\alpha_k = \sqrt{1+a_k^2}$  ( $k=1, 2, \dots, n$ ;  $a_{m+1} = \dots = a_n = 0$ ) and

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Generalizations of the Theorem of A.A.Markov  
on the Estimation of the Derivative of a Polynomial

SOV/20-125-1-2/67

$$M_n(x) = \operatorname{Re} \prod_{k=1}^n (\alpha_k x + i \sqrt{1-x^2}).$$

For  $\alpha_1 = \alpha_2 = \dots = \alpha_n = 1$  there follows the theorem of A.A.Markov.

Theorem: For polynomials  $P_n(x)$  of degree  $\leq n$  from  $|P_n(x)| \leq |\alpha x + \beta + i \sqrt{1-x^2}|$ ,  $-1 \leq x \leq 1$ , where  $\alpha, \beta$  are real and  $0 \leq |\beta| < \alpha$ , there follows that  $|P'_n(x)| \leq \max[|M'_n(-1)|, |M'_n(+1)|]$ ,  $-1 \leq x \leq 1$ ,

where  $M_n(x) = \frac{\alpha+1}{2} T_n(x) + \beta T_{n-1}(x) + \frac{\alpha-1}{2} T_{n-2}(x)$ ; here  $T_n(x) = \cos n \arccos x$ . The equality is reached only for  $P_n(x) = \gamma M_n(x)$ ,  $|\gamma| = 1$ , in  $x = -1$  or  $x = +1$ .

There are 4 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A.Steklov, AS USSR)

PRESENTED: November 29, 1958, by S.N.Bernshteyn, Academician

SUBMITTED: November 29, 1958

Card 2/2

KOROVKIN, Pavel Petrovich; VIDENSKIY, V.S., red.; KRYUCHKOVA, V.N.,  
tekhn.red.

[Linear operators and the theory of approximation] Lineinye  
operatory i teoriya priblizhenii. Moskva, Gos.izd-vo fiziko-  
matem.lit-ry, 1959. 211 p. (MIRA 12:8)  
(Functional analysis) (Operators (Mathematics))  
(Approximate computation)

VIDENSKIY, V.S.

Stieltjes' and Bernsteins's inequalities for legendre polynomials.  
Dokl. AN SSSR 124 no.5:973-975 F '59. (MIRA 12:3)

1. Matematicheskiy institut imeni V.A. Steklova AN SSSR.  
Predstavleno akademikom S.N. Bernsteynom.  
(Inequalities (Mathematics))

VIDENSKIY, V.S.

Generalizations of A.A.Markov's theorems on the evaluation of polynomial derivatives. Dokl.AN SSSR 125 no.1:15-18 Mr-Apr '59. (MIRA 12:4)

1. Matematicheskii institut imeni V.A.Steklova AN SSSR. Predstavleno akademikom S.N.Bernshteynom.  
(Polynomials)

16(1)

AUTHOR: Videnskiy, V.S.

307/20-126-2-6/64

TITLE: On Polynomials Deviating Least From Zero, the Coefficients of Which Satisfy a Given Linear Relation

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 248-250 (USSR)

ABSTRACT: Let

$$(1) \quad p_n(z) = \sum_{k=0}^n p_k z^k,$$

$$(2) \quad \sum_{k=0}^n \alpha_k p_k = 1, \quad \sum_{k=0}^n |\alpha_k| \neq 0,$$

$\alpha_k$ -given complex numbers. The point set  $\{z_\nu\}_{\nu=1}^m$ ,  $1 \leq m \leq 2n+1$  is called characteristic if for each of its subsets there exists a polynomial (1) so that its deviation from zero is strictly smaller than the smallest deviation on the whole set  $\{z_\nu\}_{\nu=1}^m$ .

Theorem: Let  $\{z_\nu\}_{\nu=1}^m$  be a characteristic set. In order that the polynomial  $M_n(z)$  among all polynomials of the type (1)-(2) is that which on  $\{z_\nu\}_{\nu=1}^m$  deviates least from zero, it is necessary and sufficient that

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On Polynomials Deviating Least From Zero, the SOV/20-126-2-6/64  
Coefficients of Which Satisfy a Given Linear Relation

(3)  $M_n(z_\nu) = g e^{-i\theta_\nu}$ ,  $g > 0$ ,  $\nu = 1, 2, \dots, m$ ,  
and that there exists a sequence of positive numbers  $\{\delta_\nu\}_{\nu=1}^m$   
for which  $\sum_{\nu=1}^m \delta_\nu e^{i\theta_\nu} z_\nu^k = \alpha_k$ ,  $k = 0, 1, \dots, n$ .

Theorem: If a polynomial  $p_n(z)$  of the type (1)-(2) on the  
characteristic set  $\{z_\nu\}_{\nu=1}^m$  assumes the values  $p_n(z_\nu) = \lambda_\nu e^{-i\theta_\nu}$ ,  
 $\lambda_\nu > 0$ ,  $\nu = 1, 2, \dots, m$ , where  $\{\theta_\nu\}_{\nu=1}^m$  is defined by (3), then  
there holds the inequation  $\min_{\nu} \lambda_\nu \leq g \leq \max_{\nu} \lambda_\nu$ .

Theorem: Among the polynomials of the type (1)-(2) for every

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On Polynomials Deviating Least From Zero, the SOV/20-126-2-6/64  
Coefficients of Which Satisfy a Given Linear Relation

$q \geq 2$  in the metric  $L_q$ ,  $M_n(z)$  is the polynomial deviating least  
from zero on  $\{z_\nu\}_{\nu=1}^m$  with the weight  $\{\delta_\nu\}_{\nu=1}^m$ .

There are 4 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova Akademii nauk SSSR  
( Mathematical Institute imeni V.A. Steklov, AS USSR)

PRESENTED: February 2, 1959, by S.N. Bernshteyn, Academician

SUBMITTED: February 1, 1959

Card 3/3

AUTHOR: Videnskiy, V.S. SOV/20-121-2-2/53

TITLE: The Application of the Theory of Integral Functions for the Construction and Investigation of  $N'$ -Functions Being Complementary to Given  $N'$ -Functions (Primeneniye teorii tselykh funktsiy k postroyeniyu i issledovaniyu  $N'$ -funktsiy, dopolnitel'nykh k zadannym  $N'$ -funktsiyam)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr2, pp 202-205 (USSR)

ABSTRACT: In the theory of Orlicz-spaces the author considers so-called  $N'$ -functions  $M(u) = \int_0^u p(t)dt$ , where  $p(t)$  is a continuous function not decreasing at the right hand side,  $p(0) = 0$ ,  $p(t) > 0$  for  $t > 0$ ,  $\lim_{t \rightarrow \infty} p(t) = \infty$ . Putting  $q(s) = \sup_{p(t) \leq s} t$ , then the  $N'$ -function  $N(v) = \int_0^v q(s)ds$  is called complementary to  $M(u)$ . Then also  $M(u)$  is complementary to  $N(v)$ . Two  $N'$ -functions  $M_1(u)$  and  $M_2(u)$  are called equivalent if there exist  $\alpha, \beta, u_0$  so that  $M_1(\alpha u) \leq M_2(u) \leq M_1(\beta u)$ ,  $u \geq u_0$ .

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The Application of the Theory of Entire Functions for the Construction and Investigation of  $N'$ -Functions Being Complementary to Given  $N'$ -Functions SOV/20-121-2-2/53

Let  $F(z) = \sum_{n=0}^{\infty} e^{-M(n)} z^n$ ;  $F(z)$  is an entire function.

Theorem: If  $N(v)$  is complementary to  $M(u)$ , then  $\ln F(e^v)$  is equivalent to  $N(v)$ .

Theorem: If  $F(z)$  is an entire function of finite order, then

there exists  $\lim_{v \rightarrow \infty} \frac{\ln F(e^v)}{N(v)} = 1$ .

Theorem: In order that  $\lim_{v \rightarrow \infty} v^{-1} \ln N(v) = \xi$ ,  $0 \leq \xi \leq \infty$ , it is

necessary and sufficient that  $\lim_{n \rightarrow \infty} \frac{M(n)}{n \ln n} = \frac{1}{\xi}$ , where  $n$  is a

natural number. In order that  $\lim_{v \rightarrow \infty} e^{-\xi v} N(v) = \xi$  ( $0 < \xi < \infty, 0 < \xi < \infty$ )

it is necessary and sufficient that  $\lim_{n \rightarrow \infty} n^{1/\xi} e^{-M(n) \cdot \frac{1}{n}} = (\xi e \xi)^{1/\xi}$

Theorem: In order that  $\lim_{v \rightarrow \infty} e^{-\xi v} N(v) = \xi$  ( $0 < \xi, \xi < \infty$ ) it is

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The Application of the Theory of Entire Functions for the SOV/20-121-2-2/53  
Construction and Investigation of  $N'$ -Functions Being  
Complementary to Given  $N'$ -Functions

it is necessary and sufficient that  $\lim_{u \rightarrow \infty} u^{1/g} e^{-M(u) \cdot \frac{1}{u}} = (\sigma e g)^{1/g}$ .

Theorem: The integrals  $\int_1^{\infty} e^{-s v} N(v) dv$  and  $\int_1^{\infty} e^{-g M(u)} \frac{1}{u} du$

( $0 < g < \infty$ ) converge and diverge at the same time.

There are 7 references, 5 of which are Soviet, 1 French, and  
1 American.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A. Steklov of the Academy of  
Sciences of the USSR)

PRESENTED: February 28, 1958, by S.N. Bernshteyn, Academician

SUBMITTED: February 28, 1958

Card 3/3

AUTHOR: Videnskiy, V.S.

SOV/ 20-120-3-1/67

TITLE: Generalization of the Inequalities of V.A. Markov (Obobshcheniya neravenstv V.A. Markova)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 3, pp 447-449 (USSR)

ABSTRACT: Theorem: If the polynomial  $P_n(x)$  of degree not higher than  $n$  satisfies the inequality

$$(1) \quad |P_n(x)| \leq |\alpha x + i \sqrt{1-x^2}| \quad (\alpha > 0)$$

on  $[-1, 1]$ , then it is

$$(2) \quad |P_n^{(k)}(x)| \leq M_n^{(k)}(1) = \frac{\alpha+1}{2} T_n^{(k)}(1) + \frac{\alpha-1}{2} T_{n-2}^{(k)}(1), k=1, 2, \dots, n,$$

where  $T_n(x) = \cos n \arccos x$  are  $\cos x$ . The equality in (2) is attained only for polynomials  $P_n(x) = \gamma M_n(x)$ ,  $|\gamma| = 1$ .

$$M_n(x) = \frac{\alpha+1}{2} T_n(x) + \frac{\alpha-1}{2} T_{n-2}(x)$$

in the points  $x = \pm 1$ .

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Generalization of the Inequalities of V.A. Markov

SOV/20-120-3-1/67

There are 9 references, 8 of which are Soviet, and 1 American.

ASSOCIATION: Matematicheskii institut imeni V.A. Steklova Akademii nauk  
SSSR (Mathematical Institute imeni V.A. Steklov of the Academy  
of Sciences of the USSR)

PRESENTED: January 14, 1958, by S.N. Bernshteyn, Academician

SUBMITTED: January 14, 1958

1. Mathematics--Theory 2. Polynomials--Theory

Card 2/2

VIDENSKIY, V.S.

Generalisation of V.A.Markov's inequalities. Dokl. AN SSSR 120  
no. 3:447-449 My '58. (MIRA 11:7)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno  
akademikom S.N.Bernshteynom.  
(Inequalities(Mathematics))  
(Functions of real variables)



VIDENSKIY V.S.

AUTHOR: VIDENSKIY V.S.

20-5-2/48

TITLE: On the Mutual Situation of the Zeros of Consecutive Polynomials Approximating Zero Best (O vzaimnom raspolozhenii nuly posledovatel'nykh polinomov, naimenее uklonyayushchikhsya ot nulya)

PERIODICAL: Doklady Akad.Nauk SSSR, .., 1957, Vol.116, Nr.5, pp.723-726 (USSR)

ABSTRACT: A well known property of the Chebyshev polynomials is generalized. Theorem: On  $[a, b]$  let be given two functions  $t_n(x)$  and  $t_{n+1}(x)$  continuous together with their first derivatives. Let the following conditions be satisfied:

1. In the interval  $(a, b)$  let  $t_n(x)$  have the  $n$  simple zeros  $x_1 < x_2 < \dots < x_n$ . Let the function  $t_{n+1}(x)$  have there  $n+1$  simple zeros  $y_1 < y_2 < \dots < y_{n+1}$ .
2. Let every linear combination  $\lambda t_n(x) + \mu t_{n+1}(x)$  ( $\lambda, \mu$  - real,  $\lambda^2 + \mu^2 \neq 0$ ) have not more than  $n+1$  zeros on  $[a, b]$ .
3. On  $[a, b]$  let

$$|t_n(x)| \leq 1, \quad |t_{n+1}(x)| \leq 1,$$

where in  $n+1$  different points  $\xi_1 < \xi_2 < \dots < \xi_{n+1}$  and in

Card 1/2

On the Mutual Situation of the Zeros of Consecutive Polynomials 20-5-2/48  
Approximating Zero Best

$n+2$  different points  $\eta_1 < \eta_2 < \dots < \eta_{n+2}$  the relations

$$t_n(\xi_k) = (-1)^k \quad (k=1, \dots, n+1)$$

$$t_n(\eta_k) = (-1)^k \quad (k=1, \dots, n+2)$$

are satisfied.

Then there hold the inequations

$$a \leq \eta_1 \leq \xi_1 < \eta_2 < \xi_2 < \dots < \eta_{n+1} < \xi_{n+1} < \eta_{n+2} \leq b$$

$$a < y_1 < x_1 < y_2 \dots < x_n < y_{n+1} < b.$$

Two Soviet and 1 foreign references are quoted.

PRESENTED: By S.N. Bernshteyn, Academician, April 28, 1957  
ASSOCIATION: Mathematics Institute im. V. A. Steklov, Acad. Sc. USSR (Matematicheskiy  
institut im. V. A. Steklova AN SSSR)

SUBMITTED: April 27, 1957

AVAILABLE: Library of Congress

Card 2/2

PAVKO, D.; OCEFEK, Drago, dr. inz., docent; GRAFENAUER, S.;  
SICHERL, B.; KERSNIC ML., V.; PAULIN, A.; GORUP, M.;  
CAZAFURA, K.; VIDERGAR, F.; AHLIN, F.; KAVCIC, J.;  
KERSNIC, Viktor, prof. dr. inz.; GOGALA, A.; RAMOVŠ, A.;  
SKUBIC, T.

New books. Rud met zbor no. 2:189-216 '64.

1. Chief Editor, "Rudarsko-metalurški zbornik" (for Kersnic, Viktor).

VIDERGAUZ, N.S.; GOL'BERG, K.A. [deceased]; Prinsipial'nyy uchastvuyet: PANKOV,  
M.I.; LATSOVA, L.T.; GOSHEV, O.L.

Rapid chromatographic analysis of hydrocarbon gases. Neftokhimiya 2  
no.6:825-830 N-D '62. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organ-  
icheskikh produktov, Novokuybyshevskiy filial.

VIDERGAUZ, V. S.

TITLE: Seminar on refractory metals, compounds, and alloys (Kiev, April 1963).

SOURCE: Atomnaya energiya, v. 15, no. 3, 1963, 266-267.

ACCESSION NR: AP3008085

germanides and their properties.

T. I. Zhuravlev, A. I. Avgustinnik, V. S. Vidergauz. Precipitation of refractory compounds by the electrophoresis method.

Ye. A. Shtrum. Application of transfer reactions for growing single crystals of refractory compounds.

K. S. Pridantsev, N. S. Solov'yev, Technology of production and the use of nonmagnetic zirconium-base alloys.

T. V. Krasnopevtseva, P. M. Paretskaya. Chromium-base precision alloys.

M. V. Vink. Application of zirconium boride and molybdenum silicide antiemission coatings.

O. P. Kolchin, I. K. Berlin. Synthesis and use of niobium carbide.

Card 5/11

VIDERGAUZ, V. S.

TITLE: Seminar on refractory metals, compounds, and alloys (Kiev, April 1963).

SOURCE: Atomnaya energiya, v. 15, no. 3, 1963, 266-267.

ACCESSION NR: AP3008085

S. S. Ordan'yan, A. I. Avgustinnik, V. S. Vidergauz. The ZrC-Mo phase diagram at temperatures above 2500C.

L. B. Dubrovskaya, G. P. Shveykin. Phase diagram of the Ta-C system at temperatures above 2500C.

Yu. N. Vil'k, R. G. Avarbe, and others. The NbC-W interaction at temperatures above 2500C.

L. M. Katanov. Investigation of the  $Cr_2C_3$ -Fe,  $Cr_7C$ -Fe, and  $Cr_2C$ -Ti systems at temperatures below 2500C.

Yu. B. Kuz'ma, Ye. I. Gladyshevskiy, and Ye. Ye. Cherkashin. Physicochemical investigation of the Nb-Co-Si system.

N. N. Kolomytsev, N. V. Moskaleva. Phase composition of Mo-Ni-B alloys.

Ye. I. Gladyshevskiy and others. Interaction between group 4a and

Card 6/11

VIDERLI, M.M.; KAZHILAYOVA, U.I.

Results of the use of fluorescence microscopy in oncological  
practice. Azerb. med. zhur. 42 no.6:64-68 Je '65. (MIRA 18:9)

GULIYEVA, S.A., dotsent; ABASKULIYEVA, L.I., kand. med. nauk;  
VIDERLI, M.M., kand. med. nauk; ABDULLAYEV, V.M., kand. med.  
~~nauk~~

Changes in gas exchange and morphological shifts in the  
internal organs of irradiated rats. Azerb. med. zhur. no.7:  
18-23 JI '63. (MIRA 17:1)

1. Iz kafedry patofiziologii Azerbaydzhanskogo instituta  
usovershenstvovaniya vrachey i Nauchno-issledovatel'skogo  
instituta rentgenologii i radiologii Ministerstva zdrazvo-  
okhraneniya Azerbaydzhanskoy SSR.



VIDERLI, M.M.

Roentgenologic diagnosis of baritosis; experimental investigations.  
Vest. rent.i rad. no.2:22-25 Mr-Apr '54. (MLRA 7:6)

1. Iz rentgenodiagnosticheskogo otdeleniya (zav. starshiy-nauchnyy  
sotrudnik A.A.Shtuss) Azerbaydzhanskogo nauchno-issledovatel'skogo  
instituta rentgenologii i radiologii (dir. R.K.Safaraliyev)

(PNEUMOCONIOSES, experimental,

\*baritosis, x-ray diag.)

(BARIUM, injurious effects,

\*exper. baritosis, x-ray diag.)

L 11022-66

ACC NR: AP6004968

SOURCE CODE: CZ/0083/65/000/002/0113/0118

AUTHOR: Strnad, M.; Widermannova, L.--Vidermannova, L.

ORG: Psychiatric Hospital, Sternberk (Psychiatricka lecebna)

TITLE: Contribution to the psychiatric problem of the pathological conviction about the incontinence of intestinal gases

SOURCE: Ceskoslovenska psychiatrie, no. 2, 1965, 113-118

TOPIC TAGS: psychopathology, intestinal disease

ABSTRACT:

Theoretical synopsis of psychopathological evaluation of the syndrome of morbid conviction about incontinence of intestinal gases is presented. Two cases are described; one fits into the frame of the decompensation of a psychopathic personality, and the other has the character of a hallucinatory paranoid psychosis. The fatal importance of the syndrome for the life of the patients is evaluated, and early diagnostic symptoms analyzed. [JPRS]

SUB CODE: 06, 05 / SUBM DATE: none

HW  
Card 1/1

BRUK, A.D., inzh.; VIDERSHAYN, A.B., inzh.

Experience in the redesigning of exhaust fans. Prom. energ.  
19 no.1:13-14 Ja '64. (MIRA 17:2)

ROZENFEL'D, Ye.L.; VIDERSHAYN, G.Ya.

Utilization of L-rhamnose in animal organs. Vop. med. khim. 9  
no.5:531-533 S-O '63. (MIRA 17:1)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR,  
Moskva.

ROZENFEL'D, YeL.; VIDERSHAYN, G.Ya.

L-rhamnosidase of animal tissues. Dokl. AN SSSR 156 no. 5:  
1215-1216 Je '64. (MIRA 17:6)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.  
Predstavleno akademikom A.N.Belozerskim.

VIDERSHAYN, G.Ya.; ROZENFEL'D, Ye.L.

Synthesis of  $\alpha$ -phenyl-L-rhamnopyranoside and its cleavage  
in animal tissues. Biokhimiia 29 no.4:75-740 J1-Ag '64.  
(MIRA 18:6)

1. Laboratoriya klinicheskoy khimii i biokhimii uglevodnogo  
obmena Instituta biologicheskoy i meditsinskoy khimii AMN  
SSSR, Moskva.

YEYDUS, L.Kh.; ALYMOVA, M.M.; VIDENSKIY, V.G.

Density spectrum of atmospheric showers of cosmic particles. Doklady  
Akad. Nauk S.S.S.R. 75, 669-72 '50. (MLRA 3:10)  
(CA 47 no.19:9810 '53)

VIDENSKIY, V.S.; BERNSHTEYN, S.N., akademik.

Weighted approximation on a real axis. Dokl. AN SSSR 92 no.2:217-220 S '53.  
(MIRA 6:9)

1. Akademiya nauk SSSR (for Bernshteyn).

(Aggregates)



VIDENSKIY, V. S.

Functions

Result of S. N. Bernshteyn's proposal on  
integral functions of the zero type. Dokl.  
AN SSSR 84 no. 3. 1952  
RGD. 11 March 1952

SO: Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ 1953, Uncl.

VIDENIY, V. S:

"Concerning the Inequalities of the Relative Derivatives of a Polynomial." Thesis for degree of Cand. Physico-Mathematical Sci. Sub 1 Nov 50, Sci Res Inst of Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov.

SUMMARY 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950

VIDENSKIY, V. S.

Cand. Physicomath Sc.

Dissertation: "Concerning the Inequalities of the Relatively Derivatives of a Polynomial."

1/11/50

Sci. Res. Inst of Mathematics, Moscow Order of Lenin State U. imeni.  
M. V. Lomonosov.

SO Vecheryaya Moskva  
Sum 7!

VIDENSKIY, V. S.

Mathematical Review.  
June 1954  
Analysis

10-5-54  
LV

(3)  
Videnskiy, V. S. On weighted approximation on the real axis. Doklady Akad. Nauk SSSR (N.S.) 92, 217-220 (1953). (Russian)

The author considers the generalization of S. Bernstein's problem about weighted polynomial approximation on the real axis in which the polynomials contain only powers  $x^{k_n}$  with a given sequence  $\{k_n\}$  of integers. He obtains a generalization of a theorem of Mandelbrojt [Ann. Sci. Ecole Norm. Sup. (3) 65, 101-138 (1948); these Rev. 10, 436], by means of approximating the weighting function by entire functions. He was, however, apparently unaware that similar generalizations had been given by Mandelbrojt [Séries adhérentes, régularisation des suites, applications, Gauthier-Villars, Paris, 1952; these Rev. 14, 542].  
R. P. Boas, Jr.

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VIDENSKIY, V. S.

USSR/Mathematics - Approximations

11 Sep 53

"Weighted Approximation on the Real Axis," V. S. Videnskiy

DAN SSSR, Vol 92, No 2, pp 217-220

Gives the following definition: Let  $(k_n)$  ( $k_0=0$ ) be an infinite increasing sequence of integers; then the function  $\varphi(x) > 0$  (on the interval  $-\infty, \infty$ ) is said to be weighted relative to sequence  $(x^{k_n})$  (for  $\varphi(x)$  in  $W(k_n)$ ) if for every function continuous on  $-\infty, \infty$  and satisfying  $\lim_{x \rightarrow \pm\infty} f(x)/\varphi(x) = 0$  and for any positive epsilon one can construct a

269T75

polynomial  $P(x) = c_0 + c_1 x^{k_1} + \dots + c_n x^{k_n}$  such that  $|f(x) - P(x)| < \epsilon \varphi(x)$  in  $-\infty, \infty$ . Cites related work of L. Carleson (Proc Am Math Soc. 2, No 6, (1951)). Presented by S. N. Bernshteyn 26 Jun 53.

Vil. n. Mirko, int. (Novi Sad, Sirovača 21)

State and prospects of tanning industry in Vojvodina. Tehnika  
Jug 18 no.11: Suppl: Roman int 17 no.11: 2122-2124. N '63.

1. Direktor biroa za unapredenje proizvodnje Poslovnog udruzenja  
"Produktive", Novi Sad.

VIDETSKIY, A.

Join the leaders; public inspection of the technical operation of river vessels. Blok.agit.vod.transp. no.15:11-17 Ag '56.(MLRA 9:8)

1. Nachal'nik Glavflota Ministerstva rechnogo flota RSFSR.  
(Inland water transportation)

VIDGERGAUZ, R.N.

Phagocytary leukocyte index in pneumonia in children. *Pediatrics*,  
Moskva No.1:51 Jan-Feb 51. (CML 20:6)

1. Of the Propedeutic Department for Children's Diseases, Sverd-  
lovsk Medical Institute.



VIDERMAN, V.I.

Ponomarev, S.D.  
Viderman, V.I.  
Likharev, K.K.  
Malinin, N.N.  
Makushin, V.M.  
Feodos'yev, V.I.

"Elements of Modern Methods  
of Calculating Strength in  
Machine Building"

Moscow Higher Technical School  
imeni Bauman

17

Alkaloids in Nerium oleander L. H. Fisher and L. J. Jettko. Farm. Zhur. 1937, No. 2, 110-13.—P. and V. found no alkaloids in the leaves. The neutral ingredient apparently is Shindeberg's oleandrin, a little-known glucoside.  
L. Nasarevich

ALSO-SEA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Medicine - Roentgenology

VIDERLI, M. M.

Card 1/1

FD 211

Author : Viderli, M. M.

Title : X-ray diagnosis of baritosis (Experimental Investigation)

Periodical : Vest. Rent. 1 Rad. 22-25, Mar/Apr 1954

Abstract : In experimental baritosis produced on an animal, the X-ray is similar to that of silicosis. The atomic weight of the dust particles in the lungs must be taken into account in the diagnosis. Four photographs (two X-rays, one histological slide, and one plain photograph).

Institution : X-Ray Diagnosis Department (Chief - Senior Scientific Associate A. A. Shtuss) Azerbaydzhan Scientific-Research Institute of Roentgenology and Radiology, (Director - R. K. Safaraliyev)

VIDERMAN, A.I., inzh.

Making joint flanges for precast reinforced shell tubings.  
Transp.stroi. 9 no.5:27-30 My '59. (MIRA 12:12)  
(Flanges) (Bridges--Foundations and piers)

KOYETSKIY, Z. [Kojecy, Z.]; WIEDERMANN, B. [Wiedermann, B.]

Metabolic and hematologic changes following radical surgical operations on the stomach. Vop.pit. 18 no.5:20-24 S-O '59. (MIRA 13:1)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. - dotsent A. Koyetskiy) i kliniki terapevticheskoy (zav. - prof. P.Lukl') Universiteta imeni Palatskogo, Olomouts, Chekhoslovatskaya Narodnaya Respublika.  
(GASTRECTOMY)

VIDERSHAYN, A.D., inzh.; SENDETSKIY, A.A., inzh.

Experience in using step-wise evaporation with external cyclones.  
Izv. vys. ucheb. zav.; energ. 4 no.3:112-114 Mr '61. (MIRA 14:3)

1. Voroshilovskiy gorno-metallurgicheskiy institut. Predstavlena  
kafedroy teplotekhniki i gidravliki.  
(Boilers) (Furnaces)

VIDERSHAYN, M.I.

Remote control of the ZhR-4S radio station. Avtom. telem. i  
svyaz' 3 no.5:37-38 My '59. (MIRA 12:8)

1. Starshiy inzhener laboratorii signalizatsii i svyazi Moskovsko-  
Ryazanskoy dorogi.

(Remote control) (Railroads--Electronic equipment)

VIDERSHAYN, M.N.

Use of a radio relay system. Avtom., telem. i svyaz' 3  
no.7:28 J1 '59. (MIRA 12:12)

1. Starshiy inzhener laboratorii signalizatsii i svyazi  
Moskovsko-Ryazanskoy dorogi.  
(Railroads--Communication systems)



VIDERSFAN, J.

"Methodology of Pilot Training in Aero Clubs", P. 340, (PRIDLA VLASTI,  
Vol. 4, No. 15, July 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EFAL), IC, Vol. 4,  
No. 1, Jan. 1955, Uncl.

VIDERT, L.K., CHEBANOV, V.M.

Attachment to the R-5 machine. Zav.lab 26 no.7:881-882  
'60. (MIRA 13:7)

1. Leningradskiy gosudarstvennyy universitet im. A.A.  
Zhdanova.  
(Testing machines)

VIDERVOL, N.

Y ugoslavia (430)

Social Sciences - Serials

For the new man; a school mistress as a socialist educator. p. 230. Progressive American-Slovenian women in the fatherland. p. 232. NASA ZENA. (Antifasisticka fronta zena Slovenije) Ljubjana. (Illustrated

East European Accessions List. Library of Congress, Vol. 1, no. 13, November 1952.  
UNCLASSIFIED.

"Card 1 of 2"

VIDERVOL, N.

Yugoslavia (430)

monthly for women issued by the Anti-Fascist Women's Front of Slovenia, with Young pioneers, a supplement for children). Vol. 10, no. 8-9, 1952.

East European Accessions List, Library of Congress, Vol. 1, no 13, November 1952.  
UNCLASSIFIED.

" Card 2 of 2"

VIDERVOL, N.

Yugoslavia (430)

Social Sciences - Serials

Intellectual women of the past and present,  
p. 234. NASA ZENA. (Antifasisticna fronta  
zena Slovenije) Ljubjana. (Illustrated  
monthly for women issued by the Anti-Fascist  
Women's Front of Slovenia, with Young pioneers,

East European Accessions List. Library of  
Congress, Vol. 1, no. 13, November 1952.  
UNCLASSIFIED. "Card 1 of 2"

VIDERVOL, N.

Yugoslavia (430)

a supplement for children). Vol. 10,  
no. 8-9, 1952.

East European Accessions List. Library of  
Congress, Vol. 1, no. 13, November 1952.  
UNCLASSIFIED. "Card 2 of 2"

VIDETIC, Lubomir, inz.

"Production preparation" by F. Priatl. Pt.2. Reviewed by  
Lubomir Videtic. Stroj vyr 12 no.10:781 0 '64.

VIDETSKIY, A.F., inzhener.

Utilizing wheel tugboats in reservoirs. Rech.transp. 14 no.12:  
19-22 D '55. (MLRA 9:3)  
(Tugboats)



VIDETSKIY, A. F. Cand Tech Sci -- (diss) " Study of forces working on the  
~~paddle~~ <sup>paddle</sup> of paddle-wheel in calm and turbulent water." Len, 1957.

13 pp 21 cm. (Min of River Fleet RSFSR. Len Inst of Engineers of Water Transport).  
(KL, 24-57, 118)

-40-

BELIAKOV, F.Ye.; BABIN, B.N.; BAL', V.; BOROVKOV, P.N.; VOYEVODIN, I.N.;  
 GIREVICH, G.M.; GORBUNOVA, P.I.; KONNOV, A.S.; LALANTAROVA, M.V.;  
 KASHIRSKIY, A.Ya.; KAZANCHIYEV, Ye.N.; LEKSUTKIN, A.F.; LETI-  
 CHEVSKIY, M.A.; LOPATIN, S.Z.; MIRSKIY, V.N.; PODSEVALOV, V.N.;  
 SUBBOTINA, V.P.; TANASIYCHUK, N.P.; FEDOTOV, S.D.; FISENKO, K.M.;  
 EL'KIND, I.G.; BOVIN, S.S.; VASIL'YEV, L.T.; DRINKOV, V.D.; DALE-  
 CHIN, N.I.; DADAGOV, I.A.; YERMOSHINA, V.I.; ZHUKOV, I.V.; ZIMIN,  
 D.A.; IVANNIKOV, A.Ya.; KOVALEV, M.K.; LUGAKOVSKIY, N.L.; NALEVSKIY,  
 A.F.; SEREZHNIKOV, V.K.; SEMIGLASOV, M.D.; SOKOLOV, A.V.; STEPANOV,  
 V.I.; SAKHARIN, G.S.; SAVENKO, P.A.; SOLODOV, V.P.; UMEROV, Sh.Kh.;  
 CHIKINDAS, G.S.; SHCHERBUKHINA, S.N.; DYNKIN, G.Z.; LYSOV, V.S.;  
 OSHEROVICH, A.N.; ROKITSINSKIY, E.V.; BRASLAVSKIY, M.S.; RUDENKO,  
 I.A.; ZHUKOBORSKIY, M.S.; ZHDANOV, I.Ye.; SUSLIN, V.A.; BRUS, A.Ye.;  
 VOLYNSKIY, S.A.; KLYUYEV, V.A.; ISTRATOV, A.G.; TIKHOMIROV, I.F.;  
 BUTYRIN, Ya.N.; VOLYNSKIY, S.A.; MINEYEV, M.F.; MAL'TSEV, V.I.;  
 VIDETSKIY, A.F., kand.tekhn.nauk, glavnyy red.; DEMIDOV, A.N., red.;  
 KRAVETS, A.L., red.; KLIMOVA, Z.I., tekhn.red.

[Industrial Astrakhan] Promyshlennaya Astrakhan'. Astrakhan',  
 Izd-vo gazety "Volga," 1959. 318 p. (MIRA 12:11)

1. Astrakhan (Province) Ekonomicheskii administrativnyy rayon.  
 (Astrakhan Province--Economic conditions)

VIDETSKIY, A.F., kand.techn.nauk

Practical method of determining loads on paddle wheels for  
vessels operating in a wave disturbance. Trudy TSNIIRF no.39:  
137-150 '59. (MIRA 13:4)  
(Paddle wheels) (Ship propulsion)

VIDETSKIY, A.

For well-organized preparation and repair of ships in 1962-63.  
Rech. transp. 21 no.8:1-2 Ag '62. (MIRA 18:9)

1. Zamestitel' ministra rochnogo flota.

VIDETSKIY, A.

Technical operation of ships to meet modern objectives. Rech. transp.  
22 no.6: 1-3 Jo '63. (MIRA 16:9)

1. Zamestitel' ministra rechnego flota RSFSR.  
(Ships—Maintenance and repair)

VIDEYA, V.E.

Studying the changes in some properties of the "Keron" textured yarn as related to weaving. Izv. vys. ucheb. zav.; tekhn. tekst. prom. no.4:85-90 '65.  
(MIRA 18:9)

1. Moskovskiy tekstil'nyy institut.

MIROSHNICHENKO, I.V.; LARIN, G.M.; MAKAROV, S.P.; VIDEYKO, A.F.

Electron paramagnetic resonance method of studying a free radical of hexafluorodimethyl nitrogen oxide. Zhur.strukt.khim. 6 no.5:776-777 S-O '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR. Submitted March 27, 1965.

L 32643-66 EWT(m)/ENP(j)/T WW/JW/RM

SOURCE CODE: UR/0020/66/168/002/0344/0347

ACC NR: AP6015613 (A)

AUTHORS: Makarov, S. P.; Englin, M. A.; Videyko, A. F.; Tobolin, V. A.; Dubov, S. S.

53  
53  
B

ORG: none

TITLE: Reactions of hexafluorodimethylnitroxide<sup>1</sup>

SOURCE: AN SSSR. Doklady, v. 168, no. 2, 1966, 344-347

TOPIC TAGS: chemical reaction, halogen oxygen nitrogen compound, fluorinated organic compound

ABSTRACT: Reactions of hexafluorodimethylnitroxide (I), which was described in an earlier paper by S. P. Makarov, A. Ya. Yakubovitch i dr. (Zhurn. Vsesoyuzn. khim. obshch. im. D. I. Mendeleyeva, no. 1, 106, 1965; DAN, 160, 1319, 1965), with ethylene, tetrafluoroethylene, acetylene, benzene, tetrafluorohydrazine, phosphorus trichloride and trifluoride, lead and tin are described. Photolysis and pyrolysis of I were also investigated. The structure of the reaction products was analyzed by means of elementary analysis, mass spectroscopy, determination of molecular weight, and by formation of derivatives. It was established that in some reactions I acts as a typical free radical, while in others as an oxidizing agent releasing its oxygen. Photolysis leads to dimerization of I, while pyrolysis at 350C results in

Card 1/2



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